

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-024453**Date Inspected:** 15-May-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Lu Hua Jie**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder (OBG)**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Shailesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Chang xing Island in Shanghai, China. QA observed and/or found the following:

Trial Assembly

This QA Inspector performed randomly Visual Inspection and Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated a TL- 6028 (MT) report for this date. The member is identified as OBG Segment 13BE. The weld designations reviewed are as follows.

SEG3009G-008

LD3028-001-182, 183, 184, 185, 188, 189, 202, 203, 206, 207, 208, 209, 212, 213, 226, 227, 230, 231, 232, 233, 236, 237, 244, 245, 248, 249, 250, 251, 254, 255

FB3138-001-130, 131, 132, 133, 135, 136, 137, 138, 140, 141, 142, 143, 145, 146, 148, 099, 100

NDT Notification No-09137

This QA Inspector observed the following work in progress:

OBG Trial Assembly**SMAW Process:**

This QA Inspector observed ZPMC qualified welding personnel identified as 066733 Perform Shielded Metal Arc

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Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019*-017. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2212-Tc-U4b-FCM-1. For more information see below attached picture number 1.

This QA Inspector observed ZPMC qualified welding personnel identified as 068917, 037723 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019AF-001, 002, 008, 009, 015, 016, 022, 023, 029, 030. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2114-FCM-1.

This QA Inspector observed ZPMC qualified welding personnel identified as 216086 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019Q-1-172. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2213-Tc-U4b-FCM-1.

This QA Inspector observed ZPMC qualified welding personnel identified as 066418 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019U-072, 084, 096, 108, 120, 132, 144, 156. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2212-Tc-U4b-FCM-1.

This QA Inspector observed ZPMC qualified welding personnel identified as 037997 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SEG3019Q-2-175. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2213-Tc-U4b-FCM-1.

This QA Inspector observed ZPMC qualified welding personnel identified as 216986 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as SP3117-001-113, 114. ZPMC QC Identified as Zhu Yuan Yuan. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-B-P-2114-FCM-1.

Repair welding, SMAW Process:

This QA Inspector observed ZPMC qualified welding personnel identified as 037997 Perform Shielded Metal Arc Welding (SMAW) on OBG Segment 14 East. Joint identified as FB3260-001-147. ZPMC QC Identified as Zhu Yuan Yuan with Temporary welding repair report WRR-B-WR20990. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-345-SMAW-4G (4F)-FCM-Repair-1.

Repair welding, FCAW Process:

This QA Inspector observed ZPMC qualified welding personnel identified as 067871 Perform Flux Core Arc Welding (FCAW) on OBG Segment 14 East. Joint identified as DP3167-001-408. ZPMC QC Identified as Zhu Yuan Yuan with Temporary welding repair report WRR-B-WR20985. The welding parameters as measured using QC's calibrated instrument appeared to be in general compliance with WPS-345-FCAW-3G (3F)-FCM-Repair-1.

Description of Incident:

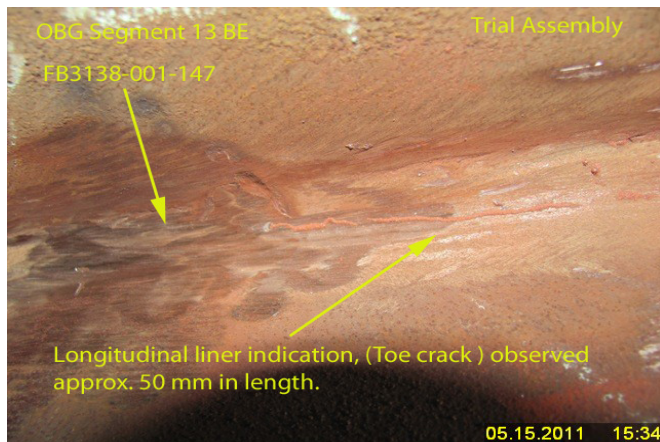
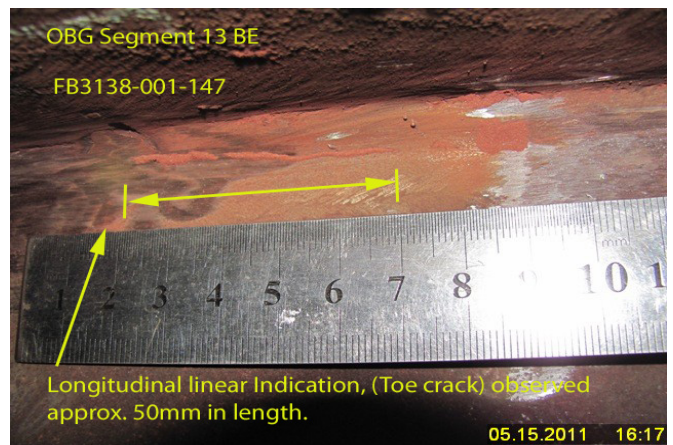
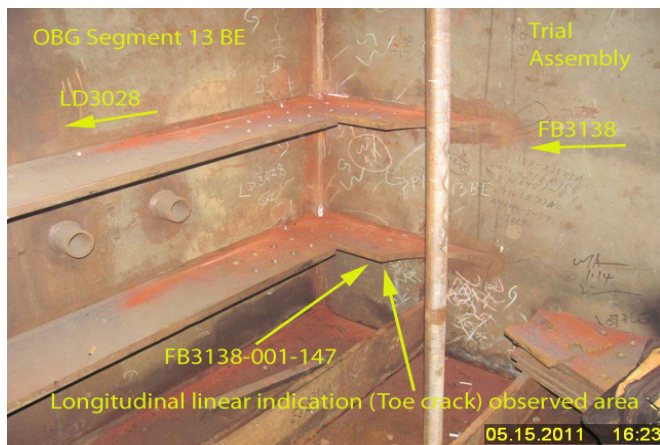
During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in OBG Segment 13BE floor beam stiffener plate, FB3138-001-147, this Quality Assurance (QA) Inspector discovered the

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following issue: One Longitudinal toe crack measuring approximately 50mm in length. The weld is identified as: FB3138-001-147. The Weld is a Fillet weld T joint, joining the stiffener plate to floor beam FB3138. The material is Non Seismic Performance Critical Member (NON SPCM) The member is located in Trial assembly yard. The Notice of Witness Inspection Number (NWIT) is 09137. The crack is located on Fillet weld area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC's QC personnel are required to perform 100% MT inspection of this weld. The attached photographs provide additional detail. This QA Inspector generated Incident report for this date.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang: 15000422372, who represents the Office of Structural Materials for your project.

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Inspected By: Gaikwad,Shailesh

Quality Assurance Inspector

Reviewed By: Patterson,Rodney

QA Reviewer